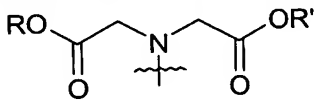
We claim:-

1. A method for stabilizing polymerizable compounds to polymerization during working-up, storage and/or transport, wherein at least one free radical scavenger which contains at least two glycine units is used, with the proviso that the free radical scavenger is not selected from ethylenediaminetetraacetic acid (EDTA), diethylenetriaminepentaacetic acid (DTPA), trans-1,2-cyclohexanediaminetetraacetic acid (CYDTA) and the alkali metal and alkaline earth metal salts thereof.

2. A process according to claim 1, wherein at least one free radical scavenger which contains at least two glycine units is used, with the proviso that the free radical scavenger does not have ≥2 of the following structural units:

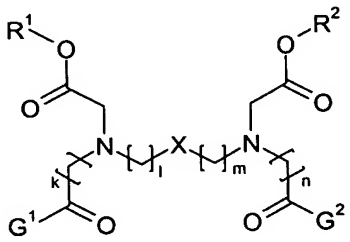


where

R and R', independently of one another, may be hydrogen or metal.

3. A process according to claim 1 or 2, wherein at least one free radical scavenger which contains at least 2 glycine units and at least one amide and/or ester unit is used.

4. A process according to any of claims 1 to 3, wherein at least one free radical scavenger of the formula (I)



(I)

where

$G^1$ may be $NR^3R^4$ or $OR^7$,

$G^2$ may be $NR^5R^6$ or $OR^8$,

$R^1$ to $R^6$, independently of one another, may be hydrogen, $C_1$-$C_{20}$-alkyl, $C_1$-$C_{20}$-alkylcarbonyl, $C_2$-$C_{20}$-alkenyl, $C_2$-$C_{20}$-alkenylcarbonyl, $C_2$-$C_{20}$-alkynyl,

$C_2$-$C_{20}$-alkynylcarbonyl, $C_3$-$C_{15}$-cycloalkyl, $C_5$-$C_{15}$-cycloalkylcarbonyl, aryl, arylcarbonyl or heterocycles,

$R^7$ and $R^8$, independently of one another, may be $C_1$-$C_{20}$-alkyl, $C_1$-$C_{20}$-alkylcarbonyl, $C_2$-$C_{20}$-alkenyl, $C_2$-$C_{20}$-alkenylcarbonyl, $C_2$-$C_{20}$-alkynyl, $C_2$-$C_{20}$-alkynylcarbonyl, $C_3$-$C_{15}$-cycloalkyl, $C_5$-$C_{15}$-cycloalkylcarbonyl, aryl, arylcarbonyl or heterocycles,

X may be $C_1$-$C_{20}$-alkyl, $NCH_2COOR^9$, $NR^{10}$, O, S, $PR^{11}$, Se, $SiOR^{12}R^{13}$ or aryl, where $R^9$ to $R^{13}$, independently of one another, may be hydrogen or $C_1$-$C_{20}$-alkyl, and

k, l, m and n, independently of one another, may be numbers from 0 to 20,

is used.

5. A process according to any of claims 1 to 4, wherein $R^1$ and $R^2$ are identical and are hydrogen or $C_1$-$C_{20}$-alkyl.

6. A process according to any of claims 1 to 5, wherein $R^3$ and $R^5$ are identical and are hydrogen, $C_1$-$C_{20}$-alkyl or $C_1$-$C_{20}$-alkylcarbonyl.

7. A process according to any of claims 1 to 6, wherein $R^4$ and $R^6$ are identical and are $C_1$-$C_{20}$-alkyl, $C_1$-$C_{20}$-alkylcarbonyl, aryl, $C_2$-$C_{20}$-alkenyl, $C_2$-$C_{20}$-alkenylcarbonyl, $C_2$-$C_{20}$-alkynyl or $C_2$-$C_{20}$-alkynylcarbonyl.

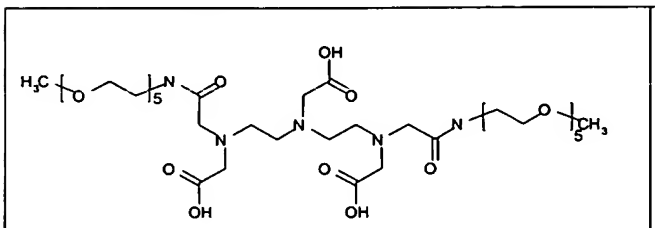
8. A process according to either of claims 6 and 7, wherein $R^3$ and $R^5$ are hydrogen and $R^4$ and $R^6$ are selected from phenyl, benzyl, p-methoxyphenyl, o-, m- or p-hydroxyphenyl, 1-hydroxyhexyl, methyl, ethyl, propyl, butyl, ethylene glycol, diethylene glycol, triethylene glycol, ethoxylate having 4 to 10 EO units, ethylenediamine, diethylenetriamine, triethylenetetramine and amino acids.

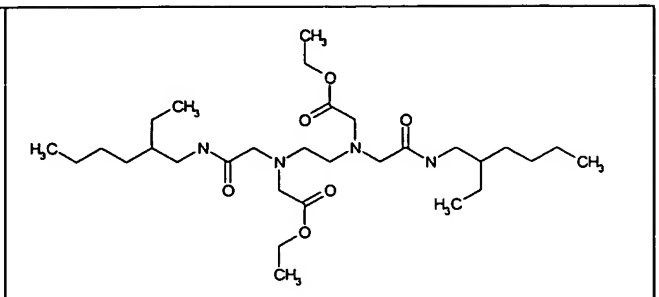
9. A process according to any of claims 1 to 5, wherein $R^7$ and $R^8$ are identical and are $C_1$-$C_{20}$-alkyl, $C_1$-$C_{20}$-alkylcarbonyl, aryl, $C_2$-$C_{20}$-alkenyl, $C_2$-$C_{20}$-alkenylcarbonyl, $C_2$-$C_{20}$-alkynyl or $C_2$-$C_{20}$-alkynylcarbonyl.

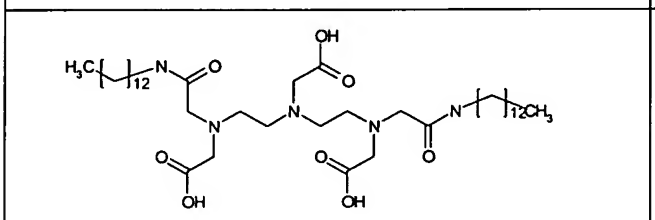
10. A process according to claim 9, wherein $R^7$ and $R^8$ are selected from phenyl, benzyl, p-methoxyphenyl, o-, m- or p-hydroxyphenyl, 1-hydroxyhexyl, methyl, ethyl, propyl, butyl, ethylene glycol, diethylene glycol, ethoxylate having 4 to 10 EO units, ethylenediamine, diethylenetriamine, triethylenetetramine and amino acids.

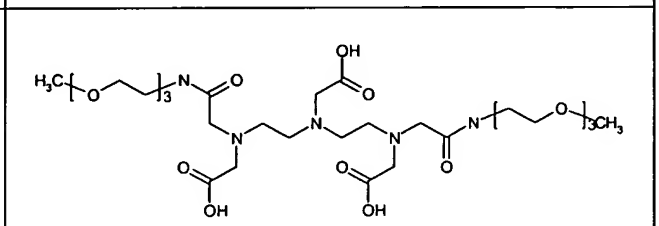
11. A process according to any of claims 1 to 10, wherein X is $C_1$-$C_{20}$-alkyl or $CH_2NCOOR^9$.

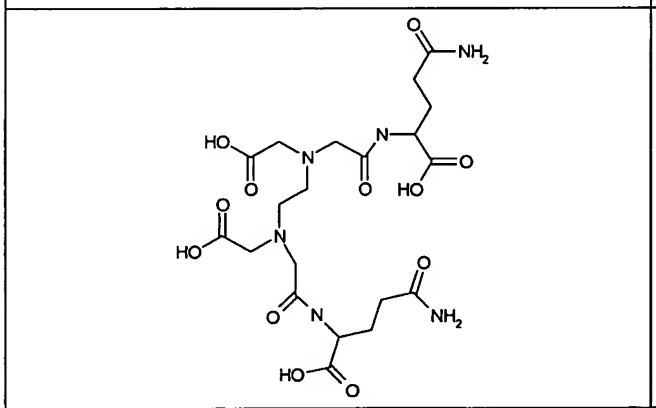
12. A process according to any of claims 1 to 11, wherein at least one of the following compounds is used:

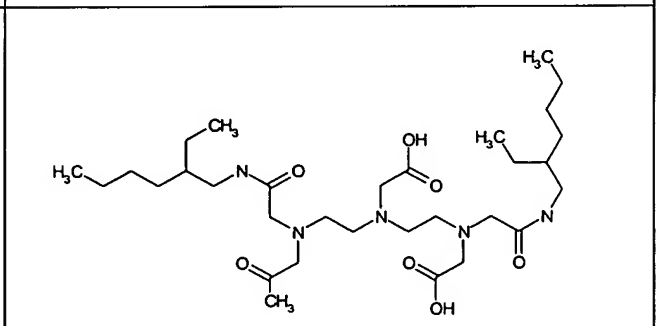


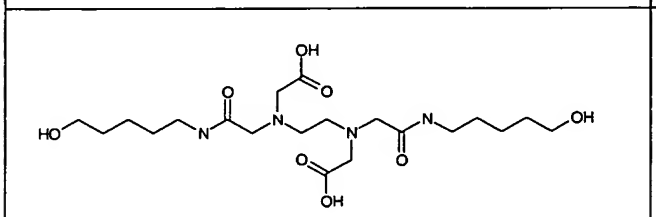


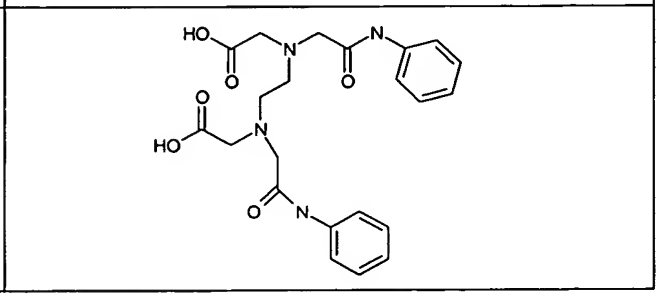


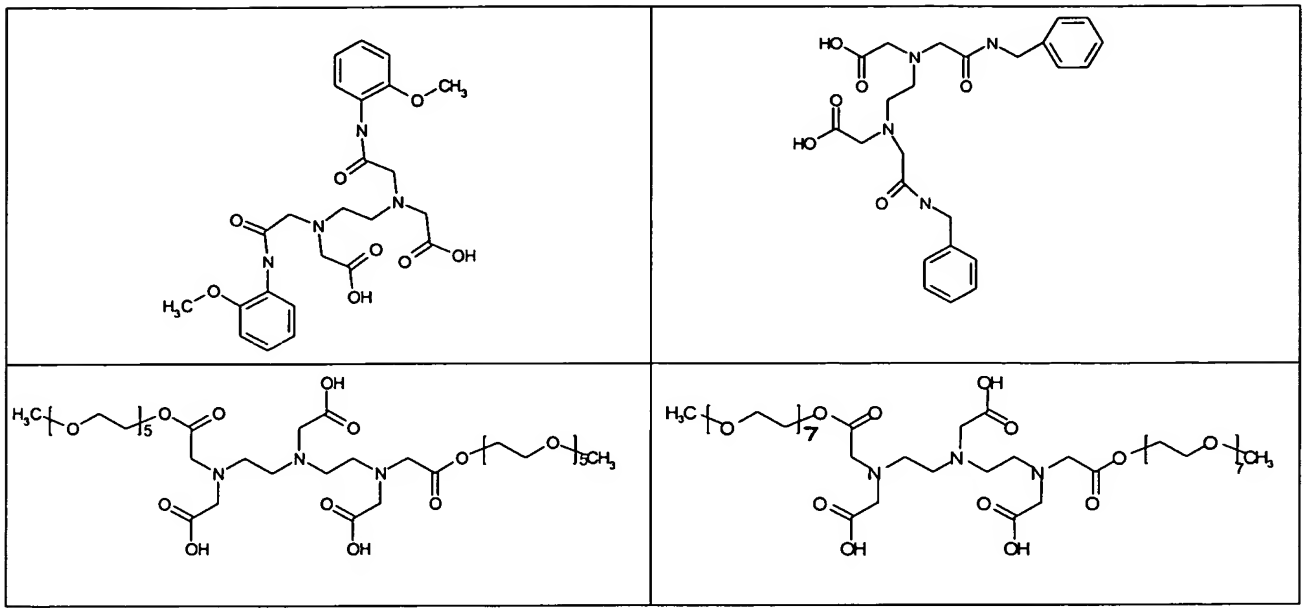












13. A process according to any of claims 1 to 12, wherein from 0.1 to 1 000 ppm, based on the polymerizable compound, of the free radical scavenger or of a free radical scavenger mixture are used.

14. A process according to any of claims 1 to 13, wherein at least one costabilizer is used.

15. A process according to claim 14, wherein the costabilizer is selected from the group consisting of the oxygen-containing gases, phenolic compounds, quinones and hydroquinones, N-oxyl compounds, aromatic amines, phenylenediamines, imines, sulfonamides, oximes, hydroxylamines, urea derivatives, phosphorus-containing compounds, sulfur-containing compounds, complexing agents based on tetraazaannulenes and metal salts, and, if appropriate, mixtures thereof.

16. A process according to claim 14 or 15, wherein phenothiazine, hydroquinone, hydroquinone monomethyl ether, 2,2,6,6-tetramethylpiperidin-N-oxyl, 4-hydroxy-2,2,6,6-tetramethylpiperidin-N-oxyl, 4-oxo-2,2,6,6-tetramethylpiperidin-N-oxyl, N,N'-di-sec-butyl-p-phenylenediamine, cerium(III) acetate, cerium(III) ethylhexanoate, oxygen-containing gases and/or mixtures thereof are used as the costabilizer.

17. A process according to any of the preceding claims, wherein the polymerizable compound contains at least one ethylenically unsaturated group.

18. A process according to claim 17, wherein the polymerizable compound is selected from the group consisting of the mono-, di- or triethylenically

unsaturated $C_3$-$C_8$-carboxylic acids, $C_1$-$C_{20}$-esters, $C_1$-$C_{20}$-amides, $C_1$-$C_{20}$-nitriles and $C_1$-$C_{20}$-anhydrides of these mono-, di- or triethylenically unsaturated $C_3$-$C_8$-carboxylic acids, vinyl esters of carboxylic acids containing up to 20 carbon atoms, vinyl ethers of alcohols containing from 1 to 10 carbon atoms, vinylaromatics and vinylheteroaromatics of up to 20 carbon atoms, vinyllactams having 3 to 10 carbon atoms in the ring, open-chain N-vinylamide compounds and N-vinylamine compounds, vinyl halides, aliphatic, if appropriate halogenated, hydrocarbons having 2 to 8 carbon atoms and 1 or 2 double bonds, vinylidenes or mixtures of these monomers.

19. A process according to claim 17 or 18, wherein mono-, di- or triethylenically unsaturated $C_3$-$C_8$-carboxylic acids, $C_1$-$C_{20}$-esters of these mono-, di- or triethylenically unsaturated $C_3$-$C_8$-carboxylic acids, vinyl esters of carboxylic acids containing up to 20 carbon atoms, vinyl ethers of alcohols containing 1 to 10 carbon atoms, vinylaromatics and vinylheteroaromatics of up to 20 carbon atoms, vinyllactams having 3 to 10 carbon atoms in the ring, open-chain N-vinylamide compounds or N-vinylamine compounds are used as the polymerizable compound.

20. A process according to any of claims 17 to 19, wherein (meth)acrylic acid, (meth)acrylates, N-vinylcaprolactam, N-vinylformamide, N-vinylimidazole, N-vinylpyrrolidone, vinylphosphoric acids, N-vinylcarbazole, N,N-divinylethyleneurea, trimethylolpropane triacrylate, ureidomethyl methacrylate, styrene, butadiene or isoprene is used as the polymerizable compound.

21. A stabilizer mixture comprising

i) at least one free radical scavenger which contains at least two glycine units, with the proviso that the free radical scavenger is not selected from ethylenediaminetetraacetic acid (EDTA), diethylenetriaminepentaacetic acid (DTPA), trans-1,2-cyclohexanediaminetetraacetic acid (CYDTA) and the alkali metal and alkaline earth metal salts thereof and

ii) at least one further stabilizer or costabilizer.

22. A mixture comprising a stabilizer mixture according to claim 21 and at least one polymerizable compound.

23. The use of a stabilizer mixture according to claim 21 for stabilizing polymerizable compounds to polymerization during working-up, storage and/or transport.